

REMARKS

Applicants respectfully request reconsideration of the present U.S. Patent application. No claims have been added or canceled. Claims 33, 43, 46, and 49 have been amended to correct lingering informalities. Thus, claims 29-50 are pending.

REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

Claims 33, 43, 44, 46, 47, 49, and 50 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In response, Applicants have amended claims 33, 43, 46, and 49 to correct lingering informalities. Applicants, therefore, respectfully request that the objections to claims 33, 43, 44, 46, 47, 49, and 50 be withdrawn.

REJECTIONS UNDER 35 U.S.C. § 103(a)

The Manual of Patent Examining Procedure ("MPEP"), in § 706.02(j), states:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be both found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Thus, the MPEP and applicable case law require that a combination of references teach or suggest **all of the claim limitations** of rejected claims as well as provide motivation for the combination, to sustain an obviousness rejection under 35 U.S.C. § 103.

Claims 29, 31, 32, 41, 42, 45, and 48 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,652,823 issued to Eto, et al. (*Eto*) in view of U.S. Patent No.

5,337,086 issued to Fujinami (*Fujinami*) and in further view of U.S. Patent No. 6,002,438 issued to Hocevar, et al (*Hocevar*). For at least the reasons set forth below, Applicants submit that claims 29, 31, 32, 41, 42, 45, and 48 are not rendered obvious in view of *Eto*, *Fujinami*, and *Hocevar*.

Claim 29 states:

...a memory coupled to the command stream controller and to the write address generator, the memory to store pixel data in a **first order** determined by the write address generator...

a read address generator coupled to the processing circuitry and to the memory, the read address generator to cause the memory to **output pixel data in a second order, wherein the second order comprises a sub-block-by-sub-block row major order.**

(Emphasis added). Claim 41 recites, "storing pixel data in a memory in a first order" and "reading the pixel data out of the memory in a second order ... the second order comprises reading the pixel data sub-block-by-sub-block in row major order." Claim 45 recites, "storing the correction data in a memory block by block in row major order ... [and] reading the correction data from the memory sub-block by sub-block in row major order." Claim 48 is an article of manufacture claim with limitations similar to claim 45.

The Office action states that neither *Eto* nor *Fujinami* disclose causing "the memory to output pixel data in a **second order**, wherein the second order comprises a **sub-block-by-sub-block in row major order**," as claimed by Applicants. Regarding the recited element of causing "the memory to output pixel data in a **second order**, wherein the second order comprises a **sub-block-by-sub-block in row major order**," the Office action directs the Applicants' attention column 7, lines 9-48 of *Hocevar*, wherein *Hocevar* discloses:

[T]he data is stored row by row within each block of the MPEG-2 picture and in that block boundaries are added to the stored information. The block boundaries are stored in a separate pointer table which points to the beginning of each block within the stored picture.

The cited passage merely discloses, “that data is stored row by row within each block” without any suggestion that the data is **read out in row major order**, as claimed by Applicants. Also, Applicants respectfully note that the cited passage does not teach or suggest reading pixel data out in a second order (e.g., an order that is different from the order in which the data was stored in memory). Since the cited passage does not teach or suggest reading pixel data out in a second order or that “the second order comprises a **sub-block-by-sub-lock in row major order**,” Applicants respectfully submit that the cited passage cannot teach or suggest causing “the memory to output pixel data in a **second order**, wherein the second order comprises a **sub-block-by-sub-lock in row major order**,” as claimed by Applicants. Therefore, Applicants find nothing in the cited passage of *Hocevar* that discloses causing “the memory to output pixel data in a second order, wherein the second order comprises a sub-block-by-sub-lock row major order,” as recited in claim 29, 41, 45, and 48.

To establish *prima facie* obviousness the Office action must show that there is some motivation, suggestion or teaching of the desirability of combining the references in the manner proposed by the Office action. *See In re Kotzab*, 55 USPQ2d 1313 (Fed. Cir. 2000). The motivation, suggestion, or teaching to modify the reference must be **supported by particular findings of fact**. Broad conclusory statements standing alone are not sufficient to establish *prima facie* obviousness. The Office action states that, “it would have been obvious to one of ordinary skill in the art, having *Eto et al*, *Fujinami*, and *Hocevar et al* references in front of him/her,” to make an embodiment of the invention. For at least the reason that the Office action does not support the quoted statement with particular findings of fact, Applicants respectfully submit that a *prima facie* case of obviousness has not been established.

In summary, Applicants respectfully submit that the Office action does not establish a *prima facie* case of obviousness based on *Eto*, *Fujinami*, and *Hocevar*. In particular, Applicants respectfully submit that the Office action fails to show that the references, alone or in combination, teach or suggest causing “the memory to output pixel data in a **second order**, wherein the second order comprises a **sub-block-by-sub-block in row major order**,” as claimed by Applicants. Also, Applicants respectfully submit that the Office action fails to show that there is some motivation, suggestion or teaching of the desirability of combining the references in the manner proposed by the Office action based on particular findings of fact. Therefore, Applicants respectfully submit that *Eto*, *Fujinami*, and *Hocevar* do not render claims 29, 41, 45, and 48 obvious.

Claims 31 and 32 depend from claim 29. Claim 42 depends from claim 41. For at least the reason that dependent claims include the limitations of the claims from which they depend, Applicants submit that claims 31, 32 and 42 are not rendered obvious by *Eto*, *Fujinami*, and *Hocevar*.

Dependent claims 33, 34, 43, 44, 46, 47, 49 and 50 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Eto* in view of *Fujinami* and *Hocevar*, and in further view of U.S. Patent No. 5,892,518 issued to Mizobata et. al. (*Mizobata*). Claims 33 and 34 depend from claim 29. Claims 43 and 44 depend from claim 41. Claims 46 and 47 depend from claim 45. Claims 49 and 50 depend from claim 48. For at least the reasons set forth below, Applicants submit that claims 33, 34, 43, 44, 46, 47, 49 and 50 are not rendered obvious by *Eto*, *Fujinami*, *Hocevar*, and *Mizobata*.

Mizobata is cited to teach a number of claim limitations related to “generating a bounding box” and “performing texturing operations.” Whether or not *Mizobata* discloses the limitations

cited by the Office action, it does not teach or suggest, nor was *Mizobata* cited to teach, a memory to store pixel data in a first order and read out pixel data from memory in a second order that is sub-block-by-sub-block in row major order, as recited in claims 29, 41, 45, and 48. Therefore, *Mizobata* fails to cure the deficiencies of *Eto*, *Fujinami*, and *Hocevar*. For at least the reason that dependent claims contain all of the limitation of the claims from which they depend, Applicants respectfully submit that no combination of *Eto*, *Fujinami*, *Hocevar*, and *Mizobata* renders claims 33, 34, 43, 44, 46, 47, 49 and 50 obvious.

As noted above, broad conclusory statements standing alone are not sufficient to establish *prima facie* obviousness. The Office action states that, "it would have been obvious to one of ordinary skill in the art, having *Eto et al*, *Fujinami*, *Hocevar et al*, and *Mizobata et al*. references in front of him/her," to make an embodiment of the invention. For at least the reason that the Office action does not support the quoted statement with particular findings of fact, Applicants respectfully submit that a *prima facie* case of obviousness has not been established.

Claims 30 and 36-39 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Eto*, in view of *Fujinami* and *Hocevar*, and in further view of U.S. Patent No. 6,208,350 B1 issued to Herrera (*Herrera*). For at least the reasons set forth below, Applicants submit that claims 30 and 36-39 are not rendered obvious in view of *Eto*, *Fujinami*, *Hocevar*, and *Herrera*.

Claim 36 recites:

a memory coupled to the command stream controller, the memory to store **pixel data** related to a macroblock in a **first order**, the first order is based on output from an Inverse Discrete Cosine Transform (IDCT) operation...

a read address generator coupled to the memory, the read address generator to cause the memory to **output the pixel data** related to a macroblock in a **second order**, the read address generator to cause the memory to output pixel data in **sub-block-by-sub-block in row major order**...

(Emphasis added). As shown above, claim 29 similarly recites, “a memory ... to store pixel data ... in a first order .. and a read address generator ... to output data **sub-block-by-sub-block in row major order.**” Claim 30 depends from claim 29. Claims 37-39 depend from claim 36.

Herrera is cited as teaching “texture mapping operations” and the use of a bilinear filter within motion compensation systems.” Whether or not *Herrera* discloses the limitations cited by the Office action, it does not teach or suggest a memory to store pixel data in a first order and read out pixel data from memory in a second order that is sub-block-by-sub-block in row major order, as claimed by Applicants. Therefore, *Herrera* fails to cure the deficiencies of *Eto*, *Fujinami*, and *Hocevar*. Thus, Applicants respectfully submit that no combination of *Eto*, *Fujinami*, *Hocevar*, and *Herrera* renders claim 29 and 36 obvious.

Claim 30 depends from claim 29. Claims 37-39 depend from claim 36. For at least the reason that dependent claims include the limitations of the claims from which they depend, Applicants respectfully submit that claims 30 and 37-39 are not rendered obvious by *Eto*, *Fujinami*, *Hocevar*, and *Herrera*.

Claim 35 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Eto*, in view of *Fujinami* and *Hocevar* and, and in further view of U.S. Patent No. 5,446,495 issued to *Tourtier*, et al. (*Tourtier*). Claim 35 depends from claim 29. For at least the reasons set forth below, Applicants submit that claim 35 is not rendered obvious in view of *Eto*, *Fujinami*, *Hocevar*, and *Tourtier*.

Tourtier is cited as teaching “the particular motion compensation pipeline processings” claimed by Applicants. Whether or not *Tourtier* discloses the limitations cited by the Office action, it does not teach or suggest a memory to store pixel data in a first order and read out pixel data from memory in a second order that is sub-block-by-sub-block in row major order, as

recited in claim 29. Therefore, *Tourtier* fails to cure the deficiencies of *Eto*, *Fujinami*, and *Hocevar*. Thus, Applicants respectfully submit that no combination of *Eto*, *Fujinami*, *Hocevar*, and *Tourtier* renders claim 35 obvious.

As noted above, broad conclusory statements standing alone are not sufficient to establish *prima facie* obviousness. The Office action states that, "it would have been obvious to one of ordinary skill in the art, having *Eto et al*, *Fujinami*, *Hocevar et al*, and *Tourtier et al*. references in front of him/her," to make an embodiment of the invention. For at least the reason that the Office action does not support the quoted statement with particular findings of fact, Applicants respectfully submit that a *prima facie* case of obviousness has not been established.

Claim 40 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Eto*, in view of *Fujinami*, *Hocevar*, *Herrera* and in further view of *Tourtier*. Claim 40 depends from claim 36. For at least the reasons set forth below, Applicants submit that claim 40 is not rendered obvious in view of *Eto*, *Fujinami*, *Hocevar*, *Herrera*, and *Tourtier*.

Tourtier is cited as teaching "the particular motion compensation pipeline processings and multiple frame prediction operations" claimed by Applicants. Whether or not *Tourtier* discloses the limitations cited by the Office action, it does not teach or suggest a memory to store pixel data in a first order and read out pixel data from memory in a second order that is sub-block-by-sub-block in row major order, as recited in claim 36. Therefore, *Tourtier* fails to cure the deficiencies of *Eto*, *Fujinami*, *Hocevar*, and *Herrera*. Thus, Applicants respectfully submit that no combination of *Eto*, *Fujinami*, *Hocevar*, *Herrera*, and *Tourtier* renders claim 40 obvious.

As noted above, broad conclusory statements standing alone are not sufficient to establish *prima facie* obviousness. The Office action states that, "it would have been obvious to one of ordinary skill in the art, having *Eto et al*, *Fujinami*, *Hocevar et al*, *Herrera*, and *Tourtier et al*.

references in front of him/her," to make an embodiment of the invention. For at least the reason that the Office action does not support the quoted statement with particular findings of fact, Applicants respectfully submit that a *prima facie* case of obviousness has not been established.

CONCLUSION

For at least the foregoing reasons, Applicants submit that the rejections have been overcome. Therefore, claims 29-50 are in condition for allowance and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present application.

Please charge any shortages and credit any overcharges to our Deposit Account number
02-2666.

Respectfully submitted,
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MARKED VERSION OF THE AMENDED CLAIMS

33. (Amended) The circuit of claim 29,

wherein a command stream controller to manipulate motion compensated video data comprises a command stream controller coupled to receive an instruction to manipulate motion compensated video; and

wherein the processing circuitry comprises a setup engine that determines a bounding box for pixels manipulated by the instruction, wherein the bounding box contains all edges of a macroblock.

43. (Amended) The method of claim 41, further comprising determining a bounding box for pixels manipulated by the [instruction] command, wherein the bounding box contains all edges of a macroblock.

46. (Amended) The method of claim 45, wherein performing frame prediction operations further comprises:

generating a bounding box containing the macroblock; and

iterating the bounding [the bounding] box;

fetching reference pixels;

filtering the reference pixels;

averaging the filtered reference pixels, if necessary; and

adding correction data to the reference pixels.

49. (Amended) The article of manufacture of claim 48, wherein the electronically accessible medium further comprises instructions that, when executed by one or more processors, cause the one or more processors to

generate a bounding box containing the macroblock; and

iterate the bounding [the bounding] box;

fetch reference pixels;

filter the reference pixels;

average the filtered reference pixels, if necessary; and

add correction data to the reference pixels.